ABSTRACT

An method for stabilized photonic transmission is described. A light source of limited coherence length is wavelength shifted, stabilized, and data encoded to provide a stabilized photonic signal. A modulation synthesizer provides a modulation waveform embedded with the shifting, stabilization and data encoding mechanisms. A variety of modulation techniques are supported. The modulation waveform is optimized for the particular modulation technique. A wavelength error detector provides feedback to the modulation synthesizer. The error signal is used to stabilize the photonic signal and correct channel wavelength errors. Fixed wavelength channels and spread spectrum channels are supported.

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